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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,659	06/21/2001	David A. Brown	2037.2018-000	4746

21005 7590 07/13/2005

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EXAMINER

SHINGLES, KRISTIE D

ART UNIT	PAPER NUMBER
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2141

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/886,659

Applicant(s)

BROWN, DAVID A.

Examiner

Kristie Shingles

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

Applicant has amended claims 1, 8, 15, 22 and 23. Claims 24 and 25 are new.

Claims 1-25 are pending.

Drawings

1. The proposed drawing corrections filed 4/27/2005 have been accepted by the Examiner. The corrections to the drawings will not be held in abeyance.

Response to Arguments

2. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. Claims 1-25 are rejected under 35 U.S.C. 102(e) as being anticipated by *Varghese et al* (USPN 6,011,795).

a. **Per claim 23**, *Varghese et al* teach an apparatus for providing a route index corresponding to a search key comprising:

- a forwarding engine which receives the search key and provides a portion of the search key as a mapper key (col.11 line 19-col.12 line 29); and
- a lookup table coupled to the forwarding engine, which receives the mapper key from the forwarding engine, the lookup table comprising (col.12 lines 6-59; provision for address lookup in forwarding table):
- a plurality of mappers which are indexed by successive portions of a search key and partial indexes from prior mappers to output the route index to the forwarding engine for the search key or partial indexes to subsequent mappers (col.6 lines 15-26, col.7 lines 13-42, col.8 lines 8-34); and
- a partial index feedback loop by which a mapper is indexed in multiple passes with multiple successive portions of the search key (col.9 lines 20-45, col.11 lines 25-29, col.14 lines 10-20 and col.15 lines 9-32).

b. **Claims 1, 8, 15 and 22** contain limitations that are substantially equivalent to the limitations of claim 23 and are therefore rejected under the same basis.

c. **Per claim 2**, *Varghese et al* teach the lookup table as claimed in Claim 1 wherein the route index corresponding to the search key is stored in a single location in one of the plurality of mappers (col.5 lines 12-59, col.9 lines 40-45, col.11 lines 30-36 and col.15 lines 9-15).

d. **Claims 9 and 16** are substantially similar to claim 2 and are therefore rejected under the same basis.

e. **Per claim 3, *Varghese et al*** teach the lookup table as claimed in Claim 1 wherein the length of the search key is variable (Abstract and col.7 lines 15-col.8 line 33).

f. **Claims 10 and 17** are substantially similar to claim 3 and are therefore rejected under the same basis.

g. **Per claim 4, *Varghese et al*** teach the lookup table as claimed in Claim 3 wherein the search key includes a 32-bit IPv4 address (col.7 lines 20-60, col.13 lines 64-66, col.14 lines 3-9 and col.15 lines 33-37).

h. **Claims 11 and 18** are substantially similar to claim 4 and are therefore rejected under the same basis.

i. **Per claim 5, *Varghese et al*** teach the lookup table as claimed in Claim 4 wherein the route index corresponding to the search key is found after a first search of the plurality of mappers (col.11 lines 37-48, col.13 lines 45-56 and col.15 lines 24-32).

j. **Claims 12 and 19** are substantially similar to claim 5 and are therefore rejected under the same basis.

k. **Per claim 6, *Varghese et al*** teach the lookup table as claimed in Claim 3 wherein the search key includes a 128-bit IPv6 address (col.4 lines 8-66 and col.6 lines 27-34).

l. **Claims 13 and 20** are substantially similar to claim 6 and are therefore rejected under the same basis.

m. **Per claim 7, *Varghese et al*** teach the lookup table as claimed in Claim 1 wherein the partial index is a subtree index (col.8 lines 1-65, col.9 lines 19-48, col.11 lines 27-30 and col.15 lines 9-23).

n. **Claims 14 and 21** are substantially similar to claim 7 and are therefore rejected under the same basis.

o. **Per claim 24**, *Varghese et al* teach the lookup table as claimed in claim 1, wherein the mapper includes a subtree memory and a subtree mapper, the subtree mapper storing the partial indexes (col.5 line 12-col.6 line 15, col.11 lines 30-36, col.14 lines 47-52).

p. **Per claim 25**, *Varghese et al* teach the lookup table as claimed in claim 1, wherein the partial index includes a pointer to a subtree entry stored in another mapper (Abstract, Figures 9, 10, 18 and 19 and col.5 line 12-col.6 line 15).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: *Wilkinson,III et al* (USPN 6,014,659), *Cao et al* (USPN 6,826,561) and *Lattibeaudiere* (USPN 5,438,535).

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristie Shingles whose telephone number is 571-272-3888. The examiner can normally be reached on Monday-Friday 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306 (or after July 15, 2005, new fax number will be 571-273-8300).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kristie Shingles
Examiner
Art Unit 2141

kds


RUPAL DHARIA
SUPERVISORY PATENT EXAMINER